## REMARKS

Claims 2 through 7 and 9 through 11 are pending in this Application. Claims 1, 8 and 12 through 15 have been cancelled and claim 2 amended by, *inter alia*, incorporating limitations of claims 1 and 8 therein. Care has been exercised to avoid the introduction of new matter. Applicants submit that the present Amendment does not generate any new matter issue.

**Claims 1 through 4 and 12 through 14 were rejected under 35 U.S.C. § 103 for obviousness predicated upon Unger in view of DiGiovanni et al.**

This rejection is traversed.

Applicants initially submit that this rejection has been rendered moot by incorporating limitations of claims 1 and 8 into claim 2, claim 8 not being subject to this rejection. Applicants would note that claims 1 and 12 through 14 have been cancelled.

In the Advisory Action dated October 30, 2003, the Examiner indicated that claims 2 through 7 and 9 through 11 would be rejected under 35 U.S.C. §103 based upon the combined disclosures of Unger in view of DiGiovanni et al. Applicants would stress that such a rejection is not factually or legally viable. Specifically, in the Advisory Action of October 30, 2003, the Examiner stated that the claims would have been obvious based upon "only routine skill in the art." This approach is **legally erroneous**, because it conspicuously avoids complying with the judicial mandate to make a "thorough and searching" factual inquiry and to provide **fact-based reasoning** explaining **why** one having ordinary skill in the art would have been realistically impelled to combine the applied references in the proposed manner. *In re Lee, 237 F.3d 1338, 61 USPQ2d 1430, 1433 (Fed. Cir. 2002).* Thus, the Examiner's continued generalization is completely

inconsistent with prevailing jurisprudence requiring **facts**. *Teleflex Inc. v. Ficosa North America Corp., 299 F.3d 1313, 63 USPQ2d 1374.*

Further, upon reviewing the overall teachings of the applied references, the Examiner's attempted combination does not withstand scrutiny. In this respect Applicants would note that the purpose of Unger is to provide low dispersion at a wide range of wavelengths (Col.. 3, Lines 11 through 13). In order to achieve the objective of low dispersion at a wide range of wavelengths, Unger teaches certain restrictions. These restrictions are set forth below.

1. A threshold cladding layer (with a raised refractive index $n_t$) is added to the well-known W-fiber between the inner cladding (with a dressed indexed $n_w$) and outer cladding (with the pure-silica index $n_{cl}$), so that $n_w < n_{cl} < n_t$ is satisfied (Col. 3, lines 56 through 64; Fig. 2).

2. As explained by Unger, the threshold layer confines the fundamental mode field and prevents it from being cut off (Col. 4, lines 5 through 9) and, hence, the fundamental mode field becomes insensitive to bending even in a long wavelength, resulting in expanded wavelength range in which the optical fiber operates in low dispersion (Col. 4, lines 38 through 44).

3. The threshold layer causes a second relative minimum of the effective group-index (Col. 4, lines 17 through 19; Fig. 1A), which causes a second zero in dispersion coefficient and low dispersion wavelength range between the first and second zeros (Col. 4, lines 19 through 22, 31 through 33; Fig. 1B).

It is inconceivable that one having ordinary skill in the art would somehow have been realistically motivated to arrive at the claimed invention based upon the above teachings of Unger.

Firstly, the teaching by Unger (1) to add a raised-index layer is **contrary** to the present invention, in which the outer cladding region including regions of sub mediums has a lower refractive index n3 than those of the core and inner cladding regions, noting page 6 of the written description of the specification, line 11, as well as claim 3. This clear **teaching away** from the claimed invention constitutes evidence of **nonobviousness** not obviousness. *In re Bell, 991 F.2d 781, 26 USPQ2d 1529 (Fed. Cir. 1993); Specialty Composites v. Cabot Corp., 845 F.2d 981, 6 USPQ2d 1601 (Fed. Cir. 1988); In re Hedges, 783 F.2d 1038, 228 USPQ 685 (Fed. Cir. 1986); In re Marshall, 578 F.2d 301, 198 USPQ 344 (CCPA 1978).*

The teaching by Unger (3) that the threshold layer affects the dispersion so that low dispersion is obtained in a wide wavelength range is also **contrary** to the present invention, in which the introduction of sub mediums into the outer cladding causes the bending loss to be reduced (page 28 of the written description, lines 3 through 8; Fig. 15), but does not affect substantially the chromatic dispersion (page 29 of the written description, lines 21 through 24; Fig. 17). Indeed, one having ordinary skill in the art would **not** have been realistically led to **claim 2** of the present invention, wherein the ratio of the optical power in the sub mediums to the total optical power is set to below 1%, which results in reduced sensitivity of the chromatic dispersion to the sub mediums.

The above argued shortcomings in the teachings of the primary reference to Unger are **not** cured by the secondary reference to DiGiovanni et al., who seek to enlarge chromatic dispersion. Indeed DiGiovanni et al. neither disclose nor suggest the concept of employing a sub medium to reduce bending laws.

Accordingly, even **if** the applied references are combined as suggested by the Examiner, and Applicants do **not** agree that the requisite realistic motivational element has been established, the

claimed invention would **not** result. *Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 5 USPQ2d 1434 (Fed. Cir. 1988).*

Based upon the foregoing, Applicants submit that the imposed rejection of claims 1 through 4 and 12 through 14 under 35 U.S.C. §103 for obviousness predicated upon Unger in view of DiGiovanni et al. is not factually or legally viable and, hence, solicit withdrawal thereof.

**Claims 5 through 11 and 15 were rejected under 35 U.S.C. § 103 for obviousness predicated upon Unger in view of DiGiovanni et al.**

This rejection is traversed. Specifically, claims 5 through 7 and 9 through 11 depend from claim 2. Applicants incorporate herein the arguments previously advanced in traversing the imposed rejection of claim 2 under 35 U.S.C. §103 for obviousness predicated upon Unger in view of DiGiovanni et al. Applicants would stress that the Examiner did **not** make the requisite "thorough and searching" factual inquiry or provide a **fact-based** explanation as to **why** one having ordinary skill in the art would somehow been realistically compelled to combine the applied references to arrive at the claimed invention. *Teleflex Inc. v. Ficosa North America Corp., supra*; *In re Lee, supra.* Indeed, as previously pointed out, the primary reference to Unger **teaches away** from the claimed invention, thereby underscoring the **nonobviousness** of the claimed invention as a whole. *In re Bell, supra; Specialty Composites v. Cabot Corp., supra; In re Hedges, supra; In re Marshall, supra.*

Based upon the foregoing, it should be apparent that a *prima facie* basis to deny patentability to the claimed invention has not been established for lack of the requisite factual basis and want of the requisite realistic motivation. Applicants, therefore, submit that the imposed rejection of claims

5 through 11 and 15 under 35 U.S.C. § 103 for obviousness predicated upon Unger in view of DiGiovanni et al. is not factually or legally viable and, hence, solicit withdrawal thereof.

Based upon the foregoing, it should be apparent that the imposed rejections have been overcome and that all pending claims are in condition for immediate allowance. Favorable consideration is, therefore, respectfully solicited.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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